

REMARKS

Claims 1 and 3-8, as amended, remain herein. Claim 2 remains herein but is presently withdrawn from consideration.

1. Objections were stated to the drawings for allegedly not illustrating all claimed elements, specifically an "outer shell." The claims have been amended to delete "outer shell." Withdrawal of the objection to the drawings is respectfully requested.

2. Claims 1 and 3-8 were rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter not described in the specification, i.e., "outer shell." Also, claims 1 and 3-8 were rejected under 35 U.S.C. §112, second paragraph, for the same reason. Claim 1 has been amended to delete the term "outer shell," thereby mooting the rejections.

Reconsideration and withdrawal of the rejections are respectfully requested.

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3. Claims 1 and 6-8 were rejected under 35 U.S.C. §102(b) over Lips U.S. Patent 5,131,329, and claims 3-5 were rejected under 35 U.S.C. §103(a) over Lips '329 and Koontz 5,337,673.

The presently claimed explosive ammunition having a fragmenting structure comprises (1) an inner shell having an outside surface, the inner shell being for splinter generation; (2) an explosive charge substantially surrounding the inner shell; (3) means for generating a mechanical stress differential at the outside surface of the inner shell during initiation of the explosive charge; and (4) an outer case enclosing the inner shell and the means. The inner shell outside surface is for initially transmitting a first force during initiation of the explosive charge to the means for generating a mechanical stress differential, and the means for generating a mechanical stress differential are spatially distributed, and upon receipt of the first force are for transmitting in return a second force oppositely directed to the inner shell outer surface, for thereby generating a mechanical stress differential spatially distributed across the inner shell and inducing splinter

generation of the inner shell. This arrangement is nowhere disclosed or suggested in the cited reference.

The presently claimed ammunition and the ammunition disclosed in Lips '329 have different action and reaction effects caused by an explosive charge. In Lips '329 the splinter generation is obtained by pressure produced by initiation of the charge passing easily through the relatively thinner grooves, thereby producing cracks and generating splinters between the grooves.

In contrast, in the presently claimed invention, the means for generating a mechanical stress differential is structurally different from prior art arrangements, and acts very differently by restraining the expected expansion of the inner shell, at the instant of initiation, at points where a mesh is present, by reaction to the force exerted by the expansion of the inner shell. The mesh momentarily restrains the inner shell along a pattern of such points, thereby producing cracks at those points and causing splinters between them.

In the presently claimed ammunition, the two-piece configuration has substantial differences over the one-piece configuration of the prior art, in terms of both structure and function. Applicants' two-piece inner shell/means for generating a mechanical stress differential differs substantially in function from the Lips '329 one-piece grooved shell because the functions of the two arrangements are diametric opposites. Applicants' arrangement momentarily contains/restrains the inner shell upon receiving the initial force, while the Lips '329 pattern of weakened portions gives way relatively easily upon receiving the initial force.

Koontz '673 discloses a fragmentation netting inside the shell. There is no suggestion in Koontz '673 to relocate the netting to the outside of the shell, or to modify a shell having a grooved outer surface, such as described by Lips '329, by replacing the outside surface grooves with a netting located outside the shell. There is no motivation stated, shown or suggested in Koontz '673 teaching or suggesting a complete departure from the inside location of the netting, and modifying

a shell having outside surface grooves, such as described by Lips '329, by replacing such grooves with a netting located outside the shell, or discussing the benefits or desirability of such a combination. Such combination arises only in applicants' disclosure and cannot be found without improper hindsight reference to applicants' disclosure.

For the foregoing reasons, Lips '329 fails to disclose all elements of applicants' claimed invention, and therefore is not a proper basis for rejection under §102. And, there is no disclosure or teaching in Lips '329 that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention.

Also, for the foregoing reasons, neither Lips '329 nor Koontz '673 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions

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thereof effectively to anticipate or suggest applicants' presently claimed invention. Claims 3-8, which depend from claim 1, are allowable for the same reasons described herein for claim 1. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

All claims 1 and 3-8 are now proper in form and patentably distinguished over all grounds of rejection cited in the Office Action. Accordingly, allowance of all claims 1 and 3-8 is respectfully requested.

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.


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If the only barrier to allowance is the presence of non-elected claim 2, the Examiner is authorized to cancel claim 2 without prejudice to applicants' rights to claim such subject matter in one or more divisional applications.

Respectfully submitted,

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